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Patent

**REMARKS/ARGUMENTS**

Claims 18-51 are pending in this patent application. The Examiner has rejected Claims 18-51 on various grounds as discussed below. The Applicant respectfully traverses these rejections. Reconsideration is requested.

The Examiner rejected Claims 18-23 and 25-51 under 35 U.S.C. 103(a) as being unpatentable over Epps U.S. Patent 6,125,759 in view of Rudd U.S. Patent 5,953,833. The Applicant submits that the teachings of Epps are so different from the present invention that there would be no suggestion for one skilled in the art to combine it with Rudd and any attempt to make such a combination would fail.

The Examiner asserts that Epps teaches a printing press with a plurality of infrared heating/drying units interposed between a plurality of printing press units for transmitting infrared radiation to the moving printed sheets. The heating units of Epps are distributed along the length of the travel path of printed sheets. However, Epps does not teach or suggest that the infrared heating units are zoned or otherwise arranged to provide heating zones across the width of the travel path. Since Epps does not teach or suggest a plurality of IR lamps spaced across the travel path to define heating zones, there is no way to combine sensors measuring the substrate temperatures in the non-existent zones and there is no way to combine a control system to control the heating in the non-existent zones based on the non-existent sensors.

Epps provides one or two temperature sensors to monitor the temperature of the transfer plate. The transfer plate is a metal part of the press itself. The sensor of Epps does not measure the temperature of the surface of the printed sheets. The only reason Epps provides for use of a second heat sensor 60, is that if the printed substrates are more narrow than the press, the edge of the transfer plate may overheat since it is not protected by the printed sheet. See Col. 4, lines 24-

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32. This teaching recognizes a problem solved by the present invention, which turns off heaters in zones in which no part of the substrate will travel.

As noted by the Examiner, Epps teaches measuring a temperature "in the vicinity of the infrared dryer" (Col. 4, lines 32-35), but does not teach or suggest measuring the temperature of the printed sheets. The Epps reference is concerned with avoiding damage to the printing press itself. Epps measures the temperature of a part of the press in the vicinity of the heaters, because that is where the heat is generated. Epps provides no teaching of controlling heaters to improve drying of ink on substrates. As a result there would be no suggestion to combine Epps with a reference related to controlling drying.

Ruud teaches controlled application of heat to a printed substrate for drying ink or a coating. Ruud applies heat by use of hot air and by conduction, i.e. by direct contact with a heated drum. Ruud provides no teaching of the heating of a printed substrate by application of IR radiation to the printed surface. As a result, there would be no reason for one skilled in the art to attempt to combine the teachings of Ruud with the teachings of Epps which uses IR heaters, but not zoned IR heaters. Any attempt to combine Ruud with Epps would fail, because Epps does not teach or suggest use of a plurality of heating elements across the substrate travel path. Without such heating elements spaced across the travel path, there are no heating zones which could be separately sensed or controlled.

It is only the present Applicant who teaches the combination of zoned IR heaters applying heat to zones across a substrate travel path, with a temperature sensor for each zone and an automatic controller for adjusting the IR intensity in each zone to maintain a preselected printed substrate temperature across its entire width.

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In view of the above remarks, the Applicant submits that the independent Claims 18, 25, 42, 45 and 50 are patentable over the cited references. Since the remaining pending claims all depend from these claims, the Applicant submits that they are also patentable over the cited references. Allowance of Claims 18-51 is respectfully requested.

The Commissioner is hereby authorized to charge payment of any further fees associated with any of the foregoing papers submitted herewith, or to credit any overpayment thereof, to Deposit Account No. 50-1515, Conley Rose, P.C.

Applicants respectfully submit that the present application as amended is in condition for allowance. If the Examiner has any questions or comments or otherwise feels it would be helpful in expediting the application, he is encouraged to telephone the undersigned at (972) 731-2288.

Respectfully submitted,

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